Reply Comments for NOI on Cloud-based Software Solutions
16-NOI-01

Comments on Behalf of Advanced Energy Economy

Introduction

Advanced Energy Economy (AEE) is a national association of business leaders who are making the global energy system more secure, clean and affordable. AEE also leads a state coalition consisting of 15 partner organizations in 26 states across the country and representing more than 1,000 companies and organizations. Nationwide, the advanced energy industry generates $199.8 billion in revenue, on par with the pharmaceutical industry, and employs an estimated 2.7 million workers, as many as grocery stores and supermarkets.[1],[2]

Thanks to technological advances and innovation, we now have more options for meeting our energy needs than ever before. We call these options "advanced energy." Technology areas include energy efficiency, demand response, energy storage, natural gas electric generation, solar, wind, hydro, nuclear, electric vehicles, biofuels and smart grid. Used together, these technologies and services will create and maintain a higher-performing energy system – one that is reliable and resilient, diverse, cost-effective, and clean – while also empowering customers with new and better energy products and services.

Through its work across the country, including in Illinois and other Midwestern states, AEE brings together a broad spectrum of the advanced energy industry looking to make significant changes to the power sector and the utility business model. Several of our members are leaders in utility-sector cloud computing and Software-as-a-Service (SaaS) technologies. Therefore, AEE has tracked this Notice of Inquiry with interest and respectfully offers the following reply comments to the proceeding.

Benefits of Cloud-Based Solutions

Advanced Energy Economy is pleased to see overwhelming agreement among commenters that cloud and SaaS technologies offer significant benefits to Illinois utilities and energy consumers. The vast majority of commenters also agree that the current ratemaking treatment of cloud-based solutions in Illinois can be a barrier to adoption of these technologies. AEE is therefore encouraged that several commenters have proposed straightforward ways to address this barrier and facilitate the adoption of cloud and SaaS technology in the utility sector.

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[1] Navigant Research for AEE, Advanced Energy Now Market Report 2016, available at http://info.aee.net/aen-2016-marketreport.

[2] http://blog.aee.net/at-2.7-million-jobs-nationwide-advanced-energy-is-a-major-employer-as-well-as-200-

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billion-marketforce.

As the Joint Software Parties note, the IT transition from on-premise hardware and software to cloud-based computing is underway in the utility sector as energy providers seek out increased customer benefit: “Software vendors are increasingly transitioning away from on-premise IT systems to cloud-based solutions for many IT functions to continue to create value for utilities and their customers.”

This trend is evident in Ameren’s comments: “Ameren Illinois considers cloud computing a viable IT service delivery model that can provide part of or all of nearly any service that can be delivered with traditional on-premises IT solutions. Cloud-based solutions also offer services that are not available via the traditional on-premises model.” In effect, cloud computing and SaaS cannot only replace traditional IT investments, but also they can provide new services and benefits that were not previously available with traditional technology.

Furthermore, Ameren went on to recognize use-cases that are particularly well-suited for cloud computing:

- “Agile and dynamic creation of innovation sandboxes to prototype and test new business capabilities;
- Pay-as-you use alternatives to Ameren’s delivery and management of business-recognized IT services;
- IT services may be delivered directly to users via internet and mobile channels;
- Leveraging of pre-engineered disaster recovery solutions; and
- Commoditized solutions, which represent standardized business practices within and across industries such as customer management, asset management, and human resource management.”

In AEE’s experience in other jurisdictions, Public Utilities Commissions have similarly recognized cloud and SaaS solutions’ ability to provide scalable, mobile, and resilient technology to utilities and their customers. Of note, earlier this month the New York Public Service Commission ruled that New York utilities will now be able to profit from their cost-of-service investments, earnings from market-based platform activities and performance measures. This change includes capitalizing cloud-based software.

Further, as utilities begin to manage ever-larger datasets from advanced metering infrastructure (AMI) and other smart grid investments, there are cases in which cloud computing may be the only practical, cost-effective solution. For example, meter data analysis, grid analytics, predictive outage management, and other similar services require large amounts of computing power that would be costly for a utility procure on-site and time-consuming to build and maintain. Cloud-based solutions can be used to bring hundreds of thousands of virtual machines rapidly online to perform a load test or solve a complicated problem requiring large amounts of computing power or storage. Once the load test or problem analysis is complete the compute and storage can be released. The

elasticity afforded by cloud-based solutions allows a utility to pay for only what they need when they need it.

North Shore Gas states, “There are fundamental differences in on-demand scalability and maintenance that, in many cases, can favor a Software as a Service solution.” And, Utility Analytics cites the potential for, “substantial customer service, operational, and financial benefits of analytics solutions delivered via the cloud.”

Leveling the Playing Field

Many commenters noted that, despite the many benefits of cloud computing and SaaS, these technologies are at disadvantage when compared to on-premise IT investments. This is because, under traditional accounting and ratemaking rules, on-premise IT is treated as a capital asset that may earn a rate of return, while cloud computing and SaaS solutions are treated as operating expenses, with no ability to earn a return. In order to fully take advantage of the benefits of cloud-based software, these technologies must be able to compete on a level regulatory playing field, both in Illinois and in other jurisdictions.

As the Commission noted in the Notice of Inquiry, the accounting and ratemaking treatment of cloud computing and SaaS have become a part of national discussion. For example, the U.S. House of Representatives passed legislation in 2015 that instructed states to consider allowing utilities to earn a rate of return on cloud-based software.[3] AEE supports each state in its effort to ensure more equal competition between IT solutions within the utility sector.

Nearly all commenters agreed that achieving equal regulatory treatment between cloud-based and on-premise IT is a priority. Nicor Gas contends that IT investments that achieve the same computing functionality should be treated equally in the ratemaking process: “[T]he similar investment in the equivalent solution should be accounted for the same way in ratemaking regardless of whether the solution is an on-premise or cloud-based solution.” According to ComEd, “To maintain [an] incentive to invest in IT solutions, ratemaking should not look different because a solution is on-premise vs. cloud.”

Similarly, the Utility Analytics Institute writes that the current disparate treatment of cloud and on-premise investments has the potential to distract IT procurement decision-making from focusing the best-fit solution. “[T]he technical and functional merits of analytics solutions should drive the selection of analytics solutions, rather than regulatory accounting considerations.”

This is because, as is widely acknowledged, utilities are incentivized to put costs into their ratebase and earn a return. By expending capital and earning a return

[3] Section 1107(21) of H.R.8, the North American Energy Security and Infrastructure Act of 2015, https://www.govtrack.us/congress/bills/114/hr8

on rate-based assets, utilities earn profits and meet their fiduciary responsibility to shareholders. This provides a clear incentive for utilities to choose investments that qualify for a Return on Equity. As stated by ComEd, “Utilities need to recover the costs and earn a return on their investments.”

Noting this inherent incentive to select IT investments that earn a return, the Utility Analytics Institute writes that it “supports the idea of a ‘level playing field’ between cloud and premises-based options…and encourages the Illinois Commerce Commission and other utility regulatory agencies to allow rate recovery for cloud-based analytics solutions… The Utility Analytics Institute urges the ICC to implement regulatory accounting rules that enable utilities to capitalize investments in cloud-based analytics solutions.”

Not all commenters agreed that there is an inherent disincentive to invest in cloud-based solutions under the current ratemaking treatment. Notably, the Illinois Office of the Attorney General (OAG) asserts that this is not true. Three comments made by the OAG raise concerns for Advanced Energy Economy on their interpretation of utility incentive:

- “It is not clear that a ratemaking practice that avoids delay in cost recovery for software provided as a service by a third-party and allows annual recovery of the cost as a pass-through expense somehow discourages utility investment in cost-effective software solutions such as data analytics and off-premises or cloud computing.” (Page 6)
- “While regulatory accounting has some flexibility to use regulatory assets to smooth out lumpy or unusual, large expenses, it is not a disadvantage to a utility to recover cloud computing costs as they are incurred. This reduces delay in cost recovery and uncertainty, frees up capital for investment in essential infrastructure.” (Pages 8-9)
- Accounting rules address the proper treatment of these costs and the Commission should not disregard standard accounting rules, particularly when there is not a clear advantage to either type of accounting treatment.” (Page 9)

The OAG’s first assertion does not acknowledge the clear distinction between a capital asset that earns a set rate of return, and an operating expense that is simply recovered by the utility dollar-for-dollar. The timing of recovery for each expense—while important—is almost certainly secondary to the return that it carries. Indeed, almost every utility commenting contends that current ratemaking practices discourage investment in cloud-based software. For example, ComEd notes, “Current ratemaking practice may result in an adverse incentive.” This adverse incentive could in some cases reduce the benefit to customers from additional IT investments. According to the Joint Software Providers, “Under the current system, utilities are financially incented towards an on-premise approach even if it is the more expensive, less reliable, and less innovative option.”

With regard to the OAG's second assertion on timing of cost recovery, several utilities noted that capitalizing investments could be preferable to both utilities and their customers. According to Ameren's comments, by treating SaaS as an operating expense, "Customers do not obtain the benefit of extended repayment over a period of time, and utilities are not afforded an opportunity to earn a return on invested capital." Furthermore, Ameren contends that treating SaaS and cloud expenses in this manner is inequitable: "This current ratemaking practice is also inequitable for ratepayers because all the costs to acquire and implement the software will be expensed, and include in customer rates, in one year rather than capitalized and amortized over the years benefitted."

Additionally, utilities often have more budget flexibility within capital budgets. Carol Bartucci, Vice-President of IT for ComEd, described the distinction between capital and operating budgets for IT during the Commission's Business and IT Investments in Cloud Computing Arrangements Policy Forum on September 24, 2015: "I only get so many expense dollars because expense dollars are scarce. We protect them. We conserve them. When I'm looking at my five-year plan, I'm looking at these small dollars and I really have to understand is the cloud even in our future if I can't use capital dollars to purchase a cloud solution."

In effect, capitalized IT assets enable utilities to plan for projects that generate long-term benefits on behalf of their customers. By contrast, utility staff is encouraged to reduce operating expenses to remain under a pre-defined budget. A straightforward change in accounting classification to create equal treatment for cloud and SaaS solutions would enable utilities to select the better longer-term investment, whether it is in the cloud or on-premise.

Finally, the OAG asserts that current accounting practices classify cloud investments in the proper manner. As noted previously, FASB has recently opened up a project to reconsider the accounting treatment of cloud computing because, due to its unique characteristics, it has not fallen cleanly into one category or another. In light of this ambiguity, AEE believes the ICC's investigation into the best accounting treatment in the utility context is well warranted and that it can help to alleviate much of the ambiguity that exists in the state. Commenters also contradicted the OAG's comments and believe that current accounting practices do create clear incentives and disincentives. As Ameren stated, "Current Illinois ratemaking practice follows the GAAP rules. This current ratemaking practices is a disincentive for utilities to pursue cloud-based solutions, since such expenditures, which were formerly capitalized, and provided a return on capital, are now expensed."

Solutions

There are many solutions to these problems that could immediately remediate the accounting issues referenced throughout the comments. Among the recommendations made on how to address this include:

- Account 303 – Utilities, Joint Software Parties, and C3 recommend this solution
- Regulatory Assets: ComEd
- Treatment as Riders: North Shore Gas Company and The Peoples Gas Light and Coke Company
- Capital Lease Agreements: Ameren

Additionally, we would encourage the Commission to consider the recommendation on ratemaking treatment that New York has taken through the Reforming the Energy Vision Track 2 Order:

"Utilities can earn a return on some types of REV related operating investments within the current accounting system. Numerous IT applications will need to be developed and implemented. Rather than developing their own software, many businesses find it more efficient to enter contracts to lease software services over extended periods, typically three to five years. To the extent that these leases are prepaid, the unamortized balance of the prepayment can be included in rate base and earn a return. As utilities evaluate whether to purchase or lease these applications, their ability to earn a return on a portion of the lease investment should help to eliminate any capital bias that could affect that decision. (The decision to lease versus purchase will always be subject to review by the Commission.)"

From an AEE perspective, performance-based ratemaking and other frameworks could also help address these issues. This is more of a long-term solution that could build on the formula-based rates for ComEd and Ameren.

Conclusion

As stated by parties throughout this process there is currently a clear disadvantage to investing in cloud-based software solutions and, therefore, the Commission should adopt a new accounting treatment for these technologies. The specific advantages for cloud base solutions as identified by the Joint Software Providers include:

- A reduced cost, more flexibility and consequently better reliability.
- Cyber-security benefits are one of the primary drivers of the rapid adoption of cloud-based solutions in the financial, retail, and healthcare sectors, as well as within the federal government.
- Enhanced data integration. Better data integration helps to reduce line losses and outages, it improves the ability for customers to access relevant energy service programs in their area, and potentially lower costs at the generation, transmission, and distribution levels of the grid.

In Illinois and in other jurisdictions, AEE supports a level playing field between on-premise and cloud-based computing, and the organization applauds the ICC for addressing this important issue.